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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/995,206	11/27/2001	Christopher L. Hill	STL10005	9541

7590 11/06/2003

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EXAMINER

MILLER, PATRICK L

ART UNIT PAPER NUMBER

2837

DATE MAILED: 11/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n No.

09/995,206

Applicant(s)

HILL ET AL.

Examiner

Patrick Miller

Art Unit

2837

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 34-51 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 34-36, 38-49 and 51 is/are rejected.
- 7) ☒ Claim(s) 37 and 50 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claim 40 is objected to because of the following informalities: See bullets below.

Appropriate correction is required.

- Claim 40 cites, "a power supply." Change "a" to "the."

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 34-36, 38-40, 47, 48, and 51 are rejected under 35 U.S.C. 102(b) as being anticipated by Fukuoka (5,574,608).

- Fukuoka discloses an apparatus and method comprising a circuit that monitors a cumulative amount of charge associated with a power supply, wherein the power is removed from a load (motor) when the cumulative amount of charge is at least equal to a predetermined value (abstract).
- With respect to claim 36, the driver is disabled when a charge is at least equal to the predetermined state (fig. 1, power to #3 is disabled).
- With respect to claim 38, the charge is measured by an integrative device (fig. 1, #7).
- With respect to claims 39 and 48, a brushless motor is an inductive load (col. 1, lines 8-12).
- With respect to claim 40, the circuit minimizes a spike on the power supply (fig. 2, #6).

Art Unit: 2837

- With respect to claim 51, the power supply is decoupled from the load for a predetermined amount of time (col. 5, lines 30-42).
3. Claim 41-43, 45, and 46 are rejected under 35 U.S.C. 102(b) as being anticipated by Pertessis et al (4,804,901).
- Pertessis et al disclose a system comprising: a motor coupleable to receive a power supply (fig. 1, #12 to #28), a sensor coupleable to the motor (fig. 1, #40), a control circuit including an input and output (fig. 1, #34, 36, 38, 42), the input is coupled to the sensor (fig. 1, #34 to #40), the control circuit provides an output signal based on an amount of charge from the power supply when the amount of charge is at least equal to a predetermined threshold (fig. 3, output of #38 based on stored value at #84).
 - With respect to claim 42, #34 has an integration function (col. 6, lines 6-11).
 - With respect to claim 43, a comparator is coupled between the input and output (fig. 3, #38).
 - With respect to claims 45 and 46, switch #42 in Figure 3 is the driver and is disabled based on the output of #38.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2837

4. Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pertessis et al as applied to claims 41 and 43 above, and further in view of Lockyear (4,410,845).

- Pertessis et al do not disclose the comparator being a one-shot type.
- Lockyear discloses a motor control system that uses LM 3900 comparators, which are one-shot type. The motivation to use one-shot comparators is to provide the switching circuitry (fig. 1, #95) with pulses, thereby providing the advantage of sending pulses to the control circuit (fig. 2 to fig. 1, #23).
- Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to modify the device of Pertessis et al with a one-shot comparator, thereby providing the advantage of reliably controlling the power to the motor windings, as taught by Lockyear.

5. Claim 49 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuoka as applied to claim 47 above, and further in view of Gully et al (5,017,854).

- Fukuoka does not disclose a sub-step of monitoring an amount of charge that is proportional to the charge amount removed from the power supply.
- Gully et al disclose the charge of the capacitor directly proportional to the supply voltage and time. This provides the advantage of an accurate charge measurement with respect to the supply voltage (col. 3, lines 40-59).
- Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to modify the device of Fukuoka as described above, thereby providing the advantage of accurately measuring charge with respect to the supply voltage, as taught by Gully et al.

Allowable Subject Matter

6. Claims 37 and 50 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

- With respect to claim 37, the Prior Art does not disclose how the capacitor value is determined, and specifically the Prior Art does not disclose the charge value based on the amount of charge that will cause a voltage spike.
- With respect to claim 50, the Prior Art does not disclose monitoring charge that is proportional to the charge from the power supply and the charge is summed.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Art Unit: 2837

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick Miller whose telephone number is 703-308-4931. The examiner can normally be reached on M-F, 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Nappi can be reached on 703-308-3370. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-3431.

Patrick Miller
Examiner
Art Unit 2837

pm
October 30, 2003


ROBERT NAPPI
SUPERVISORY PATENT EXAMINER